

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Original Patent

Patentee: Loi Nguyen  
Ravishankar Sundaresan

Patent No.: 5,710,461

Title: SRAM CELL FABRICATION  
WITH INTERLEVEL  
DIELECTRIC PLANARIZATION

Issued: January 20, 1998

Docket No.: 93-C-078C1



Reissue Application

Applicants: Loi Nguyen  
Ravishankar Sundaresan

Application No.:

Title: SRAM CELL  
FABRICATION WITH  
INTERLEVEL DIELECTRIC  
PLANARIZATION

Filing Date: January 20, 2000

Docket No.: 93-C-078C1-RE (1678-20)

**REISSUE APPLICATION DECLARATION BY THE INVENTORS**

As below-named inventors, we hereby declare that:

Our residence, post office address and citizenship are as stated below.

We believe that we are the original, first and joint inventors of the innovative subject matter described and claimed in the application for reissue of U.S. Patent No. 5,710,461 ('461 patent), which is entitled "SRAM CELL FABRICATION WITH INTERLEVEL DIELECTRIC PLANARIZATION," the specification of which is attached hereto.

We hereby state that we have reviewed and understand the contents of the above-identified U.S. reissue patent application, including both the original claims and the new claims presented in the enclosed First Preliminary Amendment.

We acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulation, § 1.56(a).

We believe the above-identified original '461 patent to be partly inoperative, by reason of the patentees claiming less than we had a right to claim. This error arose without any deceptive intention on our part.

Accordingly, the enclosed First Preliminary Amendment presents amended independent claims and additional dependent claims. These claims have been amended and drafted to more particularly point out and distinctly claim various aspects of our invention. We believe that our invention is at least as broad as these claims.

At least one error upon which reissue is based is described as follows. Issued claims 1 and 7 recite "a third patterned thin-film layer comprising substantially undoped polysilicon having a very high resistivity," and issued claim 12 recites "an additional patterned thin-film layer comprising substantially intrinsic polysilicon." Each of these thin film layers corresponds to layer in which resistors for a static random access memory (SRAM) cell are formed. Regarding these resistors, the specification expressly states in column 4, lines 46-51, that "[a]lthough the resistors are formed from intrinsic polysilicon in the presently preferred embodiment, it will be recognized that a slight amount of doping may be desirable to stabilize the characteristics of this material. For example, this material may be doped with chlorine, or may be SIPOS (containing a large fraction of oxygen)." Thus, the "substantially undoped" language unduly limits the scope of issued claims 1 and 7, and the same is true of the "substantially intrinsic" language in original claim 12.

As named inventors, we hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: LISA K. JORGENSEN, Reg. No. 34,845; THEODORE E. GALANTHAY, Reg. No. 24,122; ROBERT D. MCCUTCHEON, Reg. No. 38,717; JEFF MOY, Reg. No. 39,307; and the attorneys associated with customer no. 000996 as follows: BRYAN A. SANTARELLI, Reg. No. 37,560; JEFFREY T. HALEY, Reg. No. 34,834; STEPHEN M. EVANS, Reg. No. 37,128; RICHARD O. GRAY, Reg. No. 26,550; PAUL F. RUSYN, Reg. No. 42,118; and, JOSHUA KING, Reg. No. 35,570.

Correspondence Address: Direct all communications about the application to:

Lisa K. Jorgenson  
STMicroelectronics, Inc.  
1310 Electronics Drive  
Carrollton, Texas 75006-5039  
Phone: (972) 466-6000  
Fax: (972) 466-7044

We do not know and do not believe that the claimed invention was ever known or used in the United States of America before our invention thereof.

We do not know and do not believe that the claimed invention was ever patented or described in any printed publication in any country before our invention thereof.

We do not know and do not believe that the claimed invention was ever patented or described in any printed publication in any country more than one year prior to the filing date of the original U.S. application.

We do not know and do not believe that the claimed invention was ever patented or made the subject of an inventor's certificate issued prior to the date of this application in any country foreign to the United States of America on an application filed by us or our legal representatives or assigns.

We do not know and do not believe that the claimed invention was ever in public use or on sale in the United States of America more than one year prior to the filing date of the original U.S. application.

We hereby declare that all statements made of our knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and may also jeopardize the validity of the application or any patent issued thereon.

Inventor: Loi Nguyen

4/3/00

Date

Residence and Mailing Address: 1724 Brighton Drive, Carrollton, Denton, TX 75007

Citizenship: United States

Ravishankar Sundaresan

Inventor: Ravishankar Sundaresan

28TH JAN 2001)

Date

Residence and Mailing Address: 2801, BARKSDALE DR. PLANO TX 75225-

Citizenship: India USA

## ASSIGNMENT

As a below-named inventor of the U.S. patent application entitled **SRAM Cell Fabrication with Interlevel Dielectric Planarization**, which names an inventorship of Loi Nguyen and Ravishankar Sundaresan, and which I executed on the date indicated below, I hereby sell, assign and transfer to **SGS-Thomson Microelectronics, Inc.**, 1310 Electronics Drive, Carrollton TX 75006-5039, (hereinafter referred to as ASSIGNEE), for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the full and exclusive right, title and interest to said invention in the United States and its territorial possessions and in all foreign countries and to all Letters Patent or similar legal protection in the United States and its territorial possessions and in all foreign countries to be obtained for said invention by said application or any division, continuation, continuation-in-part, renewal, substitute, extension, re-examination or reissue thereof or any legal equivalent thereof in any foreign country for the full term or terms of which the same may be granted, and specifically including the right to file foreign applications and claim priority therefor under the provisions of any convention or treaty;

and I also hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale;

and I further hereby covenant that I will, upon ASSIGNEE'S request, promptly provide ASSIGNEE with all pertinent facts and documents, relating to said application, to any invention disclosed therein, or to any of said Letters Patent or legal equivalents thereof in the United States or in foreign countries, as may be known and accessible to me, and that I will testify and give evidence as to the same in any litigation or interference which may arise, and that I will promptly execute and deliver to ASSIGNEE or its legal representative, without charge but at Assignee's expense, any and all papers, instruments or affidavits which may be required, necessary or desirable for the purpose of applying for, obtaining, maintaining, issuing or enforcing said application and said Letters Patent and said equivalents thereof in the United States or in any foreign country; and I further authorize ASSIGNEE or its legal representative to make any submissions or true declarations which may be needed in connection with the prosecution of this application or related applications in the U.S. or in other countries, consistent with the requirements of the applicable country;

REF ID: A625475

AND I HEREBY AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on said invention to ASSIGNEE, its successors and assigns.

IN WITNESS WHEREOF, this Assignment has been executed on the date set forth below.

Inventor's Name: Loi Nguyen

Signature: Loi Nguyen

Residence Address: 1724 Brighton Drive, Carrollton, Denton, Texas 75007

Today's Date, and Date Application Signed: 12/17/93

Inventor's Name: Ravishankar Sundaresan

Signature: Ravishankar Sundaresan

Residence Address: 130 E. Ridgegate Drive, Garland, Texas 75040

Today's Date, and Date Application Signed: 12/17/93

REF ID: A62052

PATENT  
SEARCHED  
INDEXED  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Original Patent

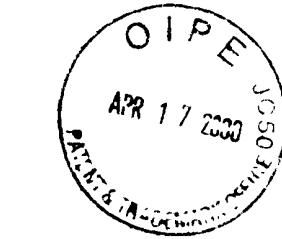
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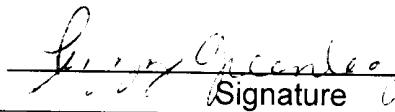
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CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited in the United States Postal Service as First Class mail in an envelope addressed to:  
Assistant Commissioner for Patents, Box MISSING PARTS, Washington,  
D.C. 20231, on this 10<sup>th</sup> day of April, 2000.

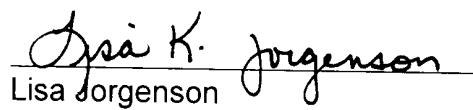
  
\_\_\_\_\_  
Signature

ASSENT OF ASSIGNEE

TO THE ASSISTANT COMMISSIONER FOR PATENTS:

STMicroelectronics, Inc. (formerly known as SGS-Thomson Microelectronics, Inc.), assignee of U.S. Patent No. 5,710,461, consents to the filing of reissue application No. 09/488,686 (or the present application, if filed with the initial application papers) for the reissue of U.S. Patent No. 5,710,461.

STMicroelectronics, Inc.

  
Lisa Jorgenson  
Director of Intellectual Property